



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|---------------------|------------------|
| 10/693,216                | 10/24/2003  | Kiyoshi Ooi          | CU-3413 RJS         | 2275             |
| 26530                     | 7590        | 06/21/2005           | EXAMINER            |                  |
| LADAS & PARRY LLP         |             |                      | BLUM, DAVID S       |                  |
| 224 SOUTH MICHIGAN AVENUE |             |                      |                     |                  |
| SUITE 1600                |             |                      | ART UNIT            | PAPER NUMBER     |
| CHICAGO, IL 60604         |             |                      | 2813                |                  |

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|------------------------------|------------------------|---------------------|--|
|                              | 10/693,216             | OOI ET AL.          |  |
| Examiner                     | <b>Art Unit</b>        |                     |  |
| David S. Blum                | 2813                   |                     |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### **Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 18 April 2005.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1 and 9-13 is/are rejected.  
7)  Claim(s) 2-8 and 14 is/are objected to.  
8)  Claim(s) 1-20 are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 24 October 2003 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/24/03.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_ .

This action is in response to the election filed 4/18/05.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of claims 1-15 in the reply filed on 4/18/05 is acknowledged.
2. Claims 16-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/18/05.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hale (US006407929B1).

Hale teaches the method of claims 1 and 9-12 as follows.

Regarding claim 1, Hale teaches a plurality of insulation layers (502, 702, 1020) forming a laminated structure having a chip-mounting structure (figure 10) on which a chip

(1002) is mounted, a built in capacitor integrated in the structure, and the capacitor comprises a dielectric film (1004) and a pair of electrode layers (1006 and 1014) sandwiching the dielectric film.

Regarding claim 9, the substrate includes a power feeding conductor and a ground conductor (column 8 lines 8-14) and the built in capacitor is provided between the ground conductor and the power-feeding conductor (figure 100).

Regarding claim 10, each of said power feeding conductor and ground conductor extends continuously from a bottom surface to a top surface (although not shown in the figures as continuous, column 4 lines 55-column 5 line 3, teaches that these vias may extend through one or more layers, suggesting they may extend from the bottom surface to the top surface. Also figure 10 shows the two connectors extending electrically (although not in a straight line) from one surface to the other.

Regarding claim 11, each of said power feeding conductor and ground conductor has a projecting part projecting from the chip-mounting surface (figure 10, 1010, 1011, 1012 and 1017, 1018, 1012).

Regarding claim 12, the projecting part extends laterally (parts 1017 and 1010) beyond the diameter of the via-hole and along the chip mounting substrate (1020).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hale (US006407929B1).

Hale teaches all of the positive steps of claim 13 as recited above in regard to claim 11, except that the projecting part has a rounded shape. Hale does not describe the shape of the projection nor show the shape from a viewpoint other than its cross section. It is reasonable to assume that it is rounded as the shape is over a via (rounded shape), or because even if the shape is rectangular, its corners would be rounded to ease lithography, thus the part would have a rounded shape. Further, MPEP 2144.04 (B) states that configuration (shape) is a matter of choice, which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed part was significant.

***Allowable Subject Matter***

7. Claims 2-8 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 2 (and its dependent claims 3-8) and 14 contain the limitation where the insulation layers are of a baked organic polysilane layer. Hale (US006407929B1) teaches the layers to be FR-4 epoxy-glass, polyimide-glass, benzocyclobutene, Teflon, or other epoxy resins or the like, but does not teach or suggest organic polysilane as the material. Shibuya (US 20020070400A1 teaches the material to be organic with a high heat resistance, but only names a polyimide and the like, but does not teach or suggest organic polysilane as the material. Shioga (US006873038B2) teaches polyimides, epoxy-resins, and other dielectric materials, but does not teach or suggest organic polysilane as the material.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Blum whose telephone number is (571)-272-1687 and e-mail address is David.blum@USPTO.gov .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr., can be reached at (571)-272-1702. Our facsimile number all patent correspondence to be entered into an application is (703) 872-9306. The facsimile number for customer service is (703)-872-9317.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David S. Blum

June 20, 2005